

What is claimed is:

1. A thermostatic control valve assembly for mixing a hot fluid and a cold fluid for discharge at a controlled temperature, the valve assembly comprising:

a cold fluid inlet;

a hot fluid inlet;

a flow control valve for controllably mixing hot and cold fluid received through said hot fluid inlet and said cold fluid inlet, respectively;

a housing defining a fluid outlet and a mixing chamber providing a fluid flow path between said flow control valve and said outlet;

at least two baffles sequentially arranged and angularly displaced from each other in said flow path within said housing for turning the fluid flow through the mixing chamber, each of said baffles projecting at a non-perpendicular angle into said flow path; and

a thermostat disposed within said mixing chamber between said at least two baffles and said fluid outlet and operably connected to said flow control valve to control said flow control valve in response to the temperature of fluid flowing through said mixing chamber.

2. The thermostatic control valve assembly of claim 1 further including a third baffle angularly displaced from each of said at least two baffles.

3. The thermostatic control valve assembly of claim 2 wherein said baffles project at an angle of about 70 degrees.

4. The thermostatic control valve assembly of claim 2 wherein said baffles define an arcuate inner edge.

5. The thermostatic control valve assembly of claim 4 wherein said baffles define a paisley shape.

6. The thermostatic control valve assembly of claim 5, wherein each of said baffles is consecutively angularly displaced by an angle of about 120 degrees.

7. The thermostatic control valve assembly of claim 4 wherein said baffles define a crescent shape.

8. The thermostatic control valve assembly of claim 7, wherein each of said baffles is consecutively angularly displaced by an angle of about 45 degrees.

9. A mixing dome for use in a thermostatic control valve assembly having a hot fluid inlet, a cold fluid inlet, a thermostatically controlled flow control valve combining hot and cold fluid received through the respective inlets, a thermostat operably coupled to the flow control valve for adjusting the amount of hot and cold fluid combined in response to the temperature of the fluid mixture, said mixing dome comprising:

a housing defining an inlet, an outlet and a mixing chamber providing a fluid flow path between said inlet and said outlet;

at least two baffles sequentially arranged and angularly displaced in said flow path and integrally formed in said housing for turning the fluid flow through the mixing chamber, each of said baffles projecting at a non-perpendicular angle into said flow path;

wherein said inlet of said housing is configured to mate with the outlet of the flow control valve; and

wherein said mixing chamber is sized to receive the thermostat between said at least two baffles and said outlet of said housing.

10. The mixing dome of claim 9 further including a third baffle angularly displaced from each of said at least two baffles.

11. The mixing dome of claim 10, wherein said baffles project at an angle of about 70 degrees.

12. The mixing dome of claim 10 wherein said baffles define an arcuate inner edge.

13. The mixing dome of claim 12 wherein said baffles define a paisley shape.

14. The mixing dome of claim 13, wherein each of said baffles is consecutively angularly displaced by an angle of about 120 degrees.

15. The mixing dome of claim 12 wherein said baffles define a crescent shape.

16. The mixing dome of claim 15, wherein each of said baffles is consecutively angularly displaced by an angle of about 45 degrees.

17. A mixing dome for a thermostatic control valve assembly comprising:

an elongated cylindrically shaped housing open at one end and defining a cavity therein for receiving a thermostat and also defining an outlet opening to said cavity remotely located from said one end, said one end

having means for mating said housing to a flow control valve, said housing including at least two baffles integrally formed therein, sequentially positioned and angularly displaced within said cavity near said one end, and each of said at least two baffles projecting at a non-perpendicular angle from said housing.

18. The mixing dome of claim 17 further including a third baffle angularly displaced from each of said at least two baffles.

19. The mixing dome of claim 18, wherein said baffles project at an angle of about 70 degrees.

20. The mixing dome of claim 18 wherein said baffles define an arcuate inner edge.

21. The mixing dome of claim 20 wherein said baffles define a paisley shape.

22. The mixing dome of claim 21, wherein each of said baffles is consecutively angularly displaced by an angle of about 120 degrees.

23. The mixing dome of claim 20 wherein said baffles define a crescent shape.

24. The mixing dome of claim 23 wherein each of said baffles is consecutively angularly displaced by an angle of about 45 degrees.

25. A mixing dome for a thermostatic control valve assembly comprising:

an elongated cylindrically shaped housing open at one end and defining a cavity therein for receiving a thermostat and also defining an outlet opening to said cavity remotely located from said one end, said one end having means for mating said housing to a flow control valve, and said

housing including at least two baffles integrally formed therein, sequentially positioned and angularly displaced within said cavity near said one end, each said baffle exhibiting a curved inner edge wherein said baffles cooperate to create a substantially cylindrical unobstructed central flow path within said cavity, and wherein each of said baffles project at a non-perpendicular angle from said housing.

26. The mixing dome of claim 25, wherein said baffles project at an angle of about 70 degrees.

27. A mixing dome for a thermostatic control valve assembly comprising:

an elongated cylindrically shaped housing open at one end and defining a cavity therein for receiving a thermostat and also defining an outlet opening to said cavity remotely located from said one end, said one end having means for mating said housing to a flow control valve, and said housing including at least two helically arranged baffles integrally formed therein, sequentially positioned and angularly displaced within said cavity near said one end, wherein said baffles cooperate to create a substantially cylindrical unobstructed central flow path within said cavity.

28. A baffle for a mixing dome housing, said baffle comprising:  
a leading downstream edge tapered into the housing;  
an upstream edge wider than said downstream edge; and  
an arcuate portion connecting said upstream and downstream edges.

29. The baffle of claim 28 wherein said baffle runs about 210 degrees from said downstream edge to said upstream edge.

30. The baffle of claim 28 wherein said baffle has a surface area that is about one-half the cross sectional area of the housing.

31. The baffle of claim 28 wherein said baffle has a paisley shape.